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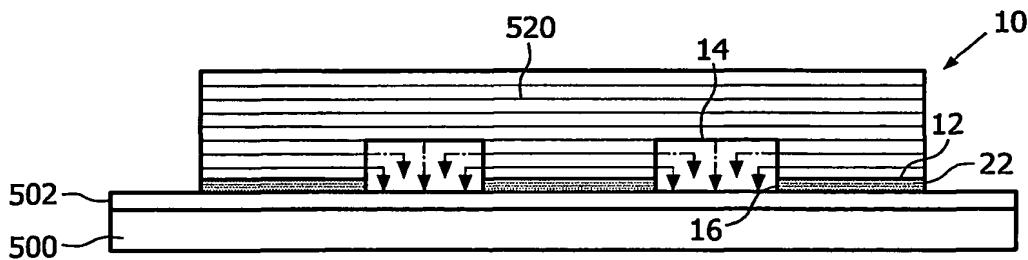
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(54) Title: ELASTOMERIC STAMP, PATTERNING METHOD USING SUCH A STAMP AND METHOD FOR PRODUCING SUCH A STAMP



(57) Abstract: An elastomeric stamp (10) for printing a pattern on a substrate (500) with an ink (520) is at least partially formed from a first material such as PDMS. The stamp comprises a first surface (12) in a first plane, a second surface (14) in a second plane and a third surface (16) extending from the first surface (12) to the second surface (14). The first surface (12) typically forms the contact surface of a protruding feature of the stamp (10), whereas the third surface (16) typically forms the edge of such a feature. The first surface (12) comprises a barrier layer (22) being substantially impermeable to the ink (520). Optionally, the second surface (14) may carry a further barrier layer (24) to suppress gas phase diffusion of the ink (520). In contrast, the third surface (16) is permeable to the ink (520). Consequently, a stamp (10) is obtained that is highly suitable for edge transfer lithography type patterning. The first material of the stamp serves as an ink reservoir, thus reducing the re-inking frequency of the stamp, and the layer (22) prevents unwanted diffusion of the ink (520) to the areas of the substrate (500) into contact with the stamp (10), thus improving the feature definition on the substrate surface.

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